UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

Via Electronic and U.S. Postal Service Mail

September 30, 2013

Mr. Mark Himberger
Shell Exploration and Production Company
200 North Dairy Ashford
Houston, Texas 77079-1197

Re: Toxic Substances Control Act Polychlorinated Biphenyls (PCBs) – PCB Disposal Notification Application Seacliff Soil Removal Project Former Hercules Gas Plant, Santa Barbra County, California – USEPA Region 9 Conditional Approval.

Dear Mr. Himberger:

The U.S. Environmental Protection Agency Region 9 (USEPA) is approving in this letter the "*PCB Disposal Notification Application Seacliff Soil Removal Project Former Hercules Gas Plant Canada de la Huerta Santa Barbara County, California*" dated September 6, 2013 prepared for Shell Exploration and Production Company (Shell) by URS (Shell's consultant). USEPA considers this document to be the first phase of the site-wide application for cleanup of polychlorinated biphenyls (PCBs) at the former Hercules Gas Plant (Hercules) cleanup site. USEPA is referring to this document as the Hercules Phase 1 PCB Cleanup Application (or Phase 1 Application). This approval also requires that Shell / URS submit a Phase 2 PCB Cleanup Application. Please refer to the conditions of approval for more details.

This approval is effective immediately and the Phase 1 Application must be implemented as modified by this approval.

USEPA is approving the Phase 1 Application with conditions and consistent with the Toxic Substances Control Act (TSCA) regulations in 40 CFR 761.61(c) (PCB risk-based cleanup). The Phase 1 Application involves removal of PCB contaminated soils at Seacliff. The conditions of approval take into consideration permits issued by certain member agencies of the Interagency Workgroup Team (IWT).[1] Those permits were issued in connection with the IWT's approval of Shell / URS' "*Work Plan for Soil Removal – Seacliff Area, Former Hercules Gas Plant Santa Barbara County, California*" (Work Plan) dated May 17, 2013. That Work Plan and other related documents serve as basis for the Phase 1 Application.

[1] The Interagency Workgroup Team (IWT) members include the California Department of Toxic Substances Control, California Coastal Commission (CCC) Energy, Ocean Resources and Federal Consistency Division, California State Lands Commission (CSLC), County of Santa Barbara, Department of Fish and Wildlife (DFW), and Santa Barbara Regional Water Quality Control Board (RWQCB).

In the Phase 1 Application, Shell / URS propose to remove approximately 50 cubic yards of soils that are contaminated with PCBs above 1 milligram/kilogram (mg/kg)[2] within the mound at the Seacliff Area (Seacliff). The Seacliff is down gradient from Hercules,[3] and Shell's excavation within the mound (Seacliff Mound) is scheduled for the weeks of October 14 and 21, 2013. In addition, Shell has explained the extent of the proposed excavation is restricted by permits from the California Coastal Commission (CCC) and the California State Lands Commission (CSLC).[4] In establishing the conditions of this TSCA PCB cleanup approval, USEPA considered the requirements in those permits.[5]

According to Shell / URS, a PCB cleanup level has not been established for the Seacliff in advance to the Phase 1 Application remediation activities. This TSCA cleanup approval does not establish a PCB cleanup level or goal for the Seacliff due to certain reasons. USEPA became involved with this site in August 2013 and it is currently reviewing site characterization and risk assessment[6] information available for Hercules and Seacliff. USEPA will be able to establish risk-based PCB cleanup levels or goals for the Seacliff and Hercules during Shell / URS' development of the Phase 2 PCB Cleanup Application.

Currently, PCBs remain in soils at the Seacliff beyond the Seacliff Mound excavation. Residual PCB concentrations may remain within the Mound after Shell removes contaminated soils from this area. Therefore, absent a risk-based PCB cleanup level and risk assessments for Seacliff, it is not possible for USEPA to determine the protectiveness of the proposed Seacliff Mound remediation. However, potential risks that may be posed by residual PCB concentrations within the Mound may be reduced by Shell's proposed post-excavation measures. Such measures include placement of organic compost and jute atop the excavation area. If effective, these measures may minimize mobilization of PCB-contaminated soils that may remain within the Mound onto adjacent areas (e.g., seawall) via storm water runoff or breach of the concrete seawall by ocean water.

Therefore, among other matters, this approval covers post-excavation soil sampling to verify residual PCB concentrations remaining after removal of PCB-contaminated soils within the Seacliff Mound and if possible, within other areas at Seacliff. In general, PCB-contaminated soils to be removed from the Seacliff Mound and other Seacliff areas are a bulk PCB remediation waste subject to TSCA PCB disposal requirements.

On another subject related to the Phase 1 Application, Shell / URS requested that USEPA waive its 30-day review and approval time frame established in 40 CFR 761.61(a)(3). That 30-day time frame is not applicable to USEPA's approval of risk-based cleanup applications under 40 CFR 761.61(c). However, to ensure that Shell / URS meet their Seacliff project mobilization schedule, USEPA is issuing here an expedited conditional approval of the Phase 1 Application.

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[2] The basis for the 1 mg/kg PCBs as a concentration to guide the removal of soils from the Seacliff Mound is not explained in the Phase 1 Approval. USEPA has not agreed to this PCB concentration as a cleanup goal for the Seacliff Mound.
[3] The EPA identification number for the former Hercules Gas Plant is CAD981453574.
[4] On September 19, 2013, USEPA had a conference call with Shell and URS to go over questions and concerns on the Phase 1 Application.
[5] CCC Permit No. 9-13-0490-W and CSLC Permit SD-2013-01-25.4 dated August 2, 2013 and August 16, 2013, respectively.
[6] USEPA is reviewing investigation reports and risk assessment information such as the *"Marine Human Health Risk Assessment Report, Former Hercules Gas Plant Facility, Santa Barbara County, CA,"* prepared for Aera Energy, LLC on March 2008.

USEPA Conditional Approval: Hercules Phase 1 Application – Seacliff Soil Removal

1. **Definition of cleanup site and contaminants covered by the approval.** USEPA is defining the cleanup site (i.e., PCB Cleanup Site or PCS) as that area that encompasses the entire property where the former Hercules Gas Plant is located and encompassing all areas (e.g., Seacliff Area) to where PCBs have migrated. Migration of PCBs from Hercules has occurred via surface water runoff and potentially other contaminant transport mechanisms (e.g., seepage, ground water).

   This approval only covers contamination by PCBs. Other contaminants (e.g., mercury) from the PCS are not covered. A PCB cleanup level still has to be developed for the PCS. Therefore, USEPA is not approving Section 3.0 (Cleanup Level) of the Phase 1 Application.

2. **Removal of PCB-contaminated soils within the Seacliff Mound limits of excavation and post excavation sampling.** The Seacliff Mound limits of excavation are depicted in Figure 3a ("Surface PCB Concentration Contours and Soil Samples – Seacliff") as the "Surficial Removal Limits" (dark brown contour line).

   Shell/URS must remove PCB-contaminated soils and/or sediments within the Seacliff Mound limits of excavation. After excavation, Shell/URS must conduct sampling to verify in-situ PCB residual concentrations remaining within the Mound after removal of soils and/or sediments. Verification sampling must be conducted using the grid that Shell / URS proposed on September 24, 2013 as modified in this approval. Instead of a 5-foot grid, an 8-foot grid should be used with samples collected at the center of each grid. In all areas encompassing at least one quarter of a grid, one soil sample must be collected.

3. **Removal of PCB-contaminated soils outside the Seacliff Mound limits of excavation and post excavation sampling.** PCB cleanup levels still have to be developed for soils and sediments in the Seacliff; and USEPA has not approved any cleanup levels for the PCs including Seacliff. Also, it is uncertain when Shell / URS will conduct additional characterization and/or removal of PCB contaminated soils from Seacliff during Phase 2.

   Therefore, under Phase 1, Shell / URS must remove PCB-contaminated soils in areas beyond the Seacliff Mound limits of excavation for which characterization data is available. Soils and/or sediments with detected PCB concentrations must be removed. After excavation, Shell/URS must conduct sampling to verify in-situ PCB residual concentrations remaining in the excavated areas. Verification sampling must be conducted using the grid that Shell / URS proposed on September 24, 2013 as modified in this approval. Instead of a 5-foot grid, an 8-foot grid should be used with samples collected at the center of each grid. In all areas encompassing at least one quarter of a grid, one soil sample must be collected.

Excavation of soils containing PCBs in areas beyond the Seacliff Mound must be consistent with the provisions in the permits issued to Shell by CCC and CSLC, and consistent with other applicable state and local requirements. Removal of soils and collection of verification samples adjacent to or near the seawall must not damage this feature.

4. **PCB congener analysis concurrent with PCB Aroclor analysis.** Hercules operated from 1963 until 1989. The historic PCB releases to environmental media from Hercules may be weathered. Therefore, such releases may represent a significantly different congener profile when compared to the initial PCB Aroclor released. Under these circumstances, dioxin-like PCB congeners may significantly increase the hazard associated with exposure to the PCB Aroclors initially released. To determine if PCBs as congeners present a higher risk at Seacliff than PCB Aroclors, a minimum of three pre-excavation and three post-excavation soil samples must be collected and analyzed for both PCB Aroclors and PCB congeners. These samples must be collected in situ and be representative of as found concentrations.

   USEPA strongly recommends that PCB congener and Aroclor analysis be conducted by the same laboratory to minimize variability in the results for PCB Aroclors and congeners. Soil samples must be collected in sufficient volume to allow for analysis of PCB Aroclors and PCB congeners via USEPA Methods 8082A and 1668C, respectively. Before extraction the soil samples must be thoroughly homogenized. Soil samples for PCB analysis via Method 8082A must be extracted using Method 3540C and the solvent for extraction must be the same as that for Soxhlet extraction under Method 1668C.

5. **Sampling of sediments from inlet and outlet culverts.** One transport mechanism by which PCBs have mobilized from the PCS is storm water runoff. Under Phase 1, Shell/URS must sample any sediments and/or soils present in the inlet and outlet culverts. Samples must be extracted via Method 3540C (Soxhlet) and analyzed via Method 8082A.

6. **Additional characterization of Seacliff.** Based on information reviewed to date, Shell/URS must conduct additional characterization of the Seacliff. Shell/URS must use a 15-foot grid for this sampling and the grid must extend to (a) the Union Pacific Railroad right of way, (b)10 feet to the east, (c) 10 feet to the west, and (d) immediately adjacent to the seawall as feasible and without compromising the integrity of the seawall. Shell/URS must conduct this characterization work for PCBs under Phase 1. If this characterization work cannot be conducted under Phase 1, then Shell/URS must conduct the work under Phase 2.

7. **Efficacy of current best management practices for storm water runoff from Hercules.** Within 30 days after the date of this approval, Shell/URS must submit a proposal to evaluate and demonstrate the efficacy of current practices to prevent transport of PCBs beyond Hercules via storm water runoff.

8. **Decontamination of sampling equipment and tools, and moveable equipment.** Shell/URS must decontaminate sampling equipment and tools, and moveable equipment employed during the

Seacliff (including Seacliff Mound) excavations and sampling consistent with the TSCA requirements in 40 CFR 761.79(c)(2). The procedures proposed in the Phase 1 Application are not consistent with these requirements. Records of the decontamination must be maintained consistent with the requirements in 40 CFR 761.79(f). Decontamination must be conducted in a manner that is safe and prevents releases or exposure to humans and the environment as required in 40 CFR 761.79(e). In addition decontamination residues and waste must be disposed of in accordance with the requirements in 40 CFR 761.79(g).

9. **Bulk PCB remediation waste. Soil and/or sediment contaminated with PCBs below 50 mg/kg that contain other contaminants.** Soil and/or sediment contaminated with PCBs below 50 mg/kg where other contaminants (e.g., mercury) are present must be disposed based on the most stringent disposal requirements for the waste. Therefore, depending on other contaminants that might be present in the waste, soil and/or sediment contaminated with PCBs below 50 mg/kg may have to be disposed of as a hazardous waste. This waste is still regulated under TSCA (40 CFR 761.61(a)(5)).

10. **Bulk PCB remediation waste.** Soil and/or sediment contaminated with PCBs at levels equal to or above 50 mg/kg. This waste is regulated under TSCA and must be disposed of consistent with the requirements in 40 CFR 761.61(a)(5).

11. **TSCA cleanup wastes.** Cleanup wastes must be disposed in accordance with the requirements in 40 CFR 761.61(a)(5).

12. **Hercules Phase 2 PCB Cleanup Application.** USEPA is approving the Phase 1 Application provided that Shell submits a Phase 2 Application for USEPA approval consistent with 40 CFR 761.61(c). Among other work, this future Application must include additional PCB characterization of soils and/or sediments in the Seacliff Area, areas up gradient and downgradient from Seacliff, areas down gradient from Hercules encompassing all drainage and seepage areas, and areas within Hercules where additional characterization may be needed. PCB cleanup levels, human and ecological site specific risk assessments, revised site conceptual model, and land use restrictions (i.e., land use covenant) must be addressed in the Phase 2 Application. Within 30 days after the date of this Phase 1 approval, Shell/URS must schedule a meeting with USEPA to begin discussions on the scope of the Phase 2 Application.

    a. **PCB cleanup level for soil and sediment.** A PCB cleanup level for soils and sediments must be established for the PCS (including all areas where sediments accumulate and mobilize via storm water runoff. These cleanup levels must be developed and proposed by Shell / URS during its preparation of the Phase 2 PCB Cleanup Application.

       USEPA has briefly reviewed selected sections of Shell / URS' *"Final Supplemental Remedial Investigation Report Former Hercules Gas Plant,"* dated August 12, 2013 (SRI). USEPA believes that it is too premature to use 1 mg/kg total PCBs as a reference for comparing site characterization data and to make conclusions about the site.

13. Certification. The certification submitted in Section 9.0 of the Phase 1 Application is not signed. Within 30 days after the date of this approval submit the signed certification to USEPA. The certification must be signed by both the owner of the property and the cleanup party.

This conditional approval does not relieve Shell Exploration and Production Company and URS Corporation from complying with all other applicable federal, state, and local regulations and permits. Departure from the conditions in this approval without written permission from USEPA may result in the commencement of proceedings to revoke this approval and/or an enforcement action. Nothing in this approval bars USEPA from imposing penalties for violations of this approval and TSCA regulations covering this approval, for violations of other applicable TSCA PCB requirements, and/or for activities not covered under this approval.

We appreciate the opportunity to being of assistance to Shell/URS during implementation of the Phase 1 Application as modified by this approval. If you have questions concerning this approval, please call Carmen D. Santos at 415.972.3360 . Thank you for your cooperation.

Sincerely,

Jeff Scott, Director
Waste Management Division

Cc Via Electronic Mail Only

Greg Burgdorf, URS Corporation
Jose Diaz, DTSC
California Coastal Commission
California State Lands Commission
Steve Armann, USEPA R9
George Randell, USEPA R9
Carmen D. Santos, USEPA R9